

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC

In the Matter of:	)	
	)	
The Notice of Proposed Rulemaking to Amend	)	
	)	
Parts 2 and 97 of the Commission's Rules to	)	
	)	
Allocate Additional Frequencies in the LF and HF	)	ET Docket 02-98
	)	
Ranges to the Amateur Radio Service	)	
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**Reply Comments to Mr. Theodore E. Drake, Arlington, Texas**

***1. Background and Introduction***

I, Philip E. Galasso, have been a licensed radio amateur since September 27, 1968 and a holder of the Amateur Extra Class license since April 16, 1976, currently with the station callsign K2PG. I use most of the emission modes permitted on the amateur bands from 1800 kHz through 450 MHz. I have held the First Class Radiotelephone Operator License (now the General Radiotelephone Operator License) since 1973 and am employed as the chief operator of broadcast stations WHTG and WHTG-FM in Eatontown, New Jersey. I also hold a station license in the Experimental Radio Service with the callsign KA2XUK, for the purpose of exploring propagation on the 160-190 kHz band.

On June 20, 2002, Mr. Theodore E. Drake (“Drake”) filed comments on ET Docket 02-98 pertaining to the Commission’s proposal to amend Parts 2 and 97 of the Rules to allocate the frequency band 5250-5400 kHz to the Amateur Radio Service on a secondary basis. In ET Docket 02-98, the Commission solicits comments as to whether this band should contain emission subbands, to be prescribed by the Commission, as well as comments on the accessibility of this band to holders of the various classes of amateur radio operator licenses. These Reply Comments will address some of the points made in Drake’s comments.

## **2. Emission Subbands**

In his comments, Drake proposes that the Commission impose emission subbands on the proposed 5250-5400 kHz allocation: *“I believe sub-banding (sic) is indeed necessary on the proposed 5000 kHz (sic) band to protect narrow band emissions like CW and data from wider emissions like single-side band (sic) voice.”* This is a classic call for yet more regulation in a hobbyist radio service that is already grossly overregulated. The United States is the only country whose government still mandates emission subbands in its amateur radio service. Such dictation of emission subbands by government fiat fails to take into account changes in operating preferences. It results in the inefficient use of precious spectrum. And it creates de facto “American-free” zones on our bands, as amateur stations in other countries may use voice emissions anywhere in any of the amateur HF allocations (except 10.100-10.150 MHz, which is reserved for narrowband, non-voice modes in most countries). Those foreign stations will not communicate with U.S. stations using CW (Class A1A emission) or other nonvoice modes in those subbands. Because such band segments are widely occupied by foreign voice stations, U.S. stations avoid using CW and other nonvoice modes there. Such de facto “American-free” zones include the segments 3700-3750 kHz, 7075-7150 kHz (primarily at night; the U.S. voice allocation from 7150 to 7300 kHz is often useless at night due to interference from high-power international broadcast stations), 14.100 to 14.150 MHz, and 21.100 to 21.200 MHz. This is valuable spectrum that Americans should be able to use in the same way that amateur radio operators may use it in other countries, including Canada. Canada recently abolished the allocation of emission subbands by government fiat.

### **3. Voice Transmission and Bandwidth Limitations**

Drake further writes, *“I further believe that, since this band is being proposed as a means to ensure reliable emergency communication, it should be restricted to spectrum-efficient modes that require no more bandwidth than that authorized for SSB transmission.”* This matter was examined and rejected by the Commission in Docket 20777.

Such emission and bandwidth restrictions would serve only to hobble experimentation in the Amateur Radio Service, as new emission modes such as OFDM<sup>1</sup> digital transmission often occupy a channel wider than 3 kHz. A group of radio amateurs in Great Britain, a country that does not hobble its amateur radio service with excessive technical regulations, is currently experimenting with the transmission of voice using OFDM on the HF bands.

The use of OFDM and other advanced digital modulation techniques also poses a problem vis-à-vis government-mandated subbands. Since OFDM, as used by the British experimenters, is a digitally encoded voice signal, would it be regulated as if it were an analog voice transmission (classes A3E, F3E, G3E, H3E, J3E, or R3E emission) and limited to the “voice” subbands? Or would it be considered as “data”, since the information is digitally encoded and modulates the carrier (or carriers, in the case of OFDM) digitally, to be limited to the “CW and data” subbands?

Current bandwidth limitations prescribed in Section 97.307 (f) (3)<sup>2</sup> expressly prohibit experimentation with new emission modes, as do the limitations prescribed in Section 97.309 (a)<sup>3</sup>. This also conflicts with the aim of Section 97.1 (b) and (c)<sup>4</sup>, as amateur radio operators wishing to use new emission modes on the air must apply for Special Temporary Authorization from the Commission. It is certainly an embarrassment to the Amateur Radio Service in this country that we are limited to transmitting text at 300 baud over the air on our HF bands while teenagers may digitally transmit text, voice, and images over the Internet at much higher speeds. A good alternative would be to avoid prescribing bandwidth and emission subband restrictions on 5250-5400 kHz or any other new amateur frequency allocation and to delete most of the existing restrictions in Sections 97.305, 97.307, and 97.309 of the Commission’s Rules, substituting the broad provisions of Part 5 of the Commission’s Rules (Experimental Radio Service). There is also a sizable number of amateur radio operators who enjoy using AM (A3E/H3E). Many still

build and repair their own radio equipment. Some have even built transmitters using the latest solid state techniques, such as Class E RF power amplifiers and the conversion of pulse duration modulation to amplitude modulation. This seems to be more in keeping with Section 97.1 (d) of the Commission's Rules than is the purchase and operation of an imported SSB/CW transceiver.<sup>5</sup> Drake appears to favor CW telegraphy (Class A1A emission) in his comments, as he calls for a subband to be reserved for this type of emission, yet the Amateur Radio Service is the only one still using A1A emission on a regular basis in this country. Could it be that CW (A1A emission) has outlived its usefulness as a practical, mainstream mode of communication? It is significant to note that the Department of Defense terminated the use of CW (A1A) emission in all three MARS services effective October 1, 1996. Why, then, should the Commission's Rules grant CW (A1A emission) a special preserve on the proposed 5250-5400 kHz band or on any other amateur radio frequency band?

#### **4. Operator License Classes**

In the second paragraph of his comments, Drake states, *"In order to prevent interference to government services and to further the purposes of incentive licensing, I recommend that the (5250-5400 kHz) band's use be restricted to amateurs who have displayed the knowledge required to pass at least the amateur advanced license test (sic)."* Two points come to mind here. What are the "purposes of incentive licensing" of Drake's comments? Has incentive licensing, as proposed by the Commission in 1964 and adopted in 1968, really increased the pool of skilled amateur radio operators, as prescribed in Section 97.1 (d) of the Commission's Rules?<sup>6</sup> Or has it merely established a caste system on the amateur bands, in which those who are able to memorize a question pool and take a multiple-choice examination win the right to operate their stations on certain reserved frequency subbands, as prescribed in Section 97.301 (b), (c), and (d) of the Rules?<sup>7</sup> The other point concerns the Advanced Class license and the examination required as qualification for this license. The Commission abolished the Advanced Class license and its accompanying question pool when it restructured the Amateur Radio Service on April 15, 2000. Although existing Advanced Class licensees are "grandfathered" under current Rules, why should any special frequency allocations be

reserved for them? If the Commission is serious about phasing out a class of radio operator license in the interest of simplifying the Rules, it should phase this class out, period.

I conclude that Part 97 of the Commission's Rules should be further simplified and that any allocation in the 5250-5400 kHz band should allow for operation by holders of the General Class license. "Incentive licensing" has served no useful purpose in the Amateur Radio Service. I therefore conclude that Drake's proposal to reserve the proposed 5250-5400 kHz allocation to those who have passed the Advanced Class licensing examination is totally superfluous and without merit. I further conclude that the Drake's recommendations of setting emission bandwidth limitations and government-mandated emission subbands are without merit and should be denied.

Respectfully submitted,

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These Reply Comments have been mailed to Mr. Drake, as prescribed in Part 1 of the Commission's Rules.

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<sup>1</sup> Orthogonal Frequency Division Multiplexing, a multicarrier digital modulation scheme developed by Bell Laboratories. It is currently used in various forms for the transmission of voice, digital television (Europe), and data.

<sup>2</sup> 97.307 (f) (3) states, "Only a RTTY or data emission using a specified digital code listed in 97.309 (a) of this Part may be transmitted. The symbol rate must not exceed 300 bauds, or for frequency-shift keying, the frequency shift between mark and space must not exceed 1 kHz."

<sup>3</sup> 97.309 (a) states, "Where authorized by Section 97.305 (c) and 97.307 (f) of this Part, an amateur station may transmit a RTTY or data emission using the following specified digital codes:

(1) The 5-unit, start-stop, International Telegraph Alphabet No. 2, code defined in International Telegraph and Telephone Consultative Committee Recommendation F.1, Division C (commonly known as Baudot).

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(2) The 7-unit code, specified in International Radio Consultative Committee Recommendation CCIR 476-2 (1978), 476-3 (1982), 476-4 (1986), or 625 (1986) (commonly known as AMTOR).

(3) The 7-unit code defined in American National Standards Institute X3.4-1977 or International Alphabet No. 5 defined in International Telegraph and Telephone Consultative Committee Recommendation T.50 or in International Organization for Standardization, International Standard ISO 646 (1983), and extensions as provided for in CCITT Recommendation T.61 (Malaga-Torremolinos, 1984) (commonly known as ASCII).

<sup>4</sup> Section 97.1 (b) states, “Continuation and extension of the amateur’s proven ability to contribute to the advancement of the radio art.” Section 97.1 (c) states, “Encouragement and improvement of the amateur service *through rules which provide for advancing skills in both the communications and technical phases of the art.*” (Italics added)

<sup>5</sup> Section 97.1 (d) states a basis and purpose of the Amateur Radio Service as, “Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.”

<sup>6</sup> Ibid.

<sup>7</sup> According to Section 97.301 (b), (c), and (d), the following subbands are prohibited to General Class operators:

3500-3525 kHz

3750-3850 kHz

7000-7025 kHz

7150-7225 kHz (ITU Region 2 only; amateur operation above 7100 kHz is prohibited in ITU Regions 1 and 3.)

14.000-14.025 MHz

14.150-14.225 MHz

21.000-21.025 MHz

21.200-21.300 MHz

Under the present Rules, the General Class license is the lowest class of amateur radio operator license permitting operation below 50 MHz.